

AMENDMENTS TO THE CLAIMS

1. (currently amended): A computer-implemented method comprising:
obtaining a set of training data having associated summaries;
using the set of training data and associated summaries to generate a key
generation model;

obtaining another set of training data having associated categories; mapping, using the key feature generation model, the other set of training data to a set of vectors; and

training a data classifier based on the set of vectors and the associated categories; and

classifying data using the trained data classifier.

2. (currently amended): A computer-implemented as recited in claim 1, wherein the classifying includes further comprising:

receiving the data to be classified:

using the key feature generation model to obtain a vector representing the data to be classified:

inputting the obtained vector to the trained data classifier; and

obtaining, from the trained data classifier, a category in which the data is classified, wherein the category is one of the associated categories.

1 3. (currently amended): A computer-implemented method as recited in
2 claim 1, wherein the training data comprises a plurality of pieces of training text,
3 wherein the associated summaries include keywords, and wherein at least one
4 summary corresponds to each piece of training text.

5
6 4. (currently amended): A computer-implemented method as recited in
7 claim 1, wherein the set of training data and the other set of training data comprise
8 the same data.

9
10 5. (currently amended): A computer-implemented method as recited in
11 claim 1, wherein using the set of training data and associated summaries to
12 generate the key feature generation model comprises:

13 obtaining, from the associated summaries, a key feature listing; and
14 creating, for each key feature in the key feature listing, a key feature
15 classifier which judges how likely it is for the key feature to occur in one of the
16 associated summaries.

17
18 6. (currently amended): A computer-implemented method as recited in
19 claim 5, wherein obtaining the key feature listing comprises including, in the key
20 feature listing, each key feature that is present in at least one of the associated
21 summaries.

22
23 7. (currently amended): A computer-implemented method as recited in
24 claim 5, wherein the key feature classifier comprises a naïve Bayesian classifier.

1 8. (currently amended): A computer-implemented method as recited in
2 claim 5, wherein the key feature classifier comprises a probabilistic model.

3
4 9. (currently amended): A computer-implemented method as recited in
5 claim 5, wherein mapping the other set of training data to a set of vectors
6 comprises:

7 generating a probability vector for each of a plurality of pieces of training
8 data of the other set of training data, wherein each component of the probability
9 vector for a piece of training data represents the conditional probability of a key
10 feature of the key feature listing given the piece of training data; and

11 including each generated probability vector as a vector of the set of vectors.

12
13 10. (currently amended): A computer-implemented method as recited in
14 claim 5, wherein mapping the other set of training data to a set of vectors
15 comprises:

16 for each piece of training data, using the created key feature classifiers to
17 generate the elements of a vector of the set of vectors.

18
19 11. (currently amended): A computer-implemented method as recited in
20 claim 1, wherein mapping the other set of training data to a set of vectors
21 comprises:

22 generating a probability vector for each of a plurality of pieces of training
23 data of the other set of training data, wherein each component of the probability
24 vector for a piece of training data represents the conditional probability of a key
25 feature given the piece of training data; and

1 including each generated probability vector as a vector of the set of vectors.
2

3 12. (currently amended): A computer-implemented method as recited in
4 claim 1, wherein the data classifier comprises a support vector machine classifier.
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6 13. (currently amended): A computer-implemented method as recited in
7 claim 1, wherein the data classifier comprises nearest neighbor classifier.
8

9 14. (currently amended): A computer-implemented method as recited in
10 claim 1, wherein the data classifier comprises a neural network classifier.
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12 15. (currently amended): A computer-implemented method as recited in
13 claim 1, wherein the data classifier comprises a naïve Bayesian classifier.
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15 16. (currently amended): A computer-implemented method as recited in
16 claim 1, wherein the data classifier comprises a logistic regression classifier.
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18 17. (currently amended): A computer-implemented method as recited in
19 claim 1, wherein the data classifier comprises a rule-based classifier.
20

21 18. (original): One or more computer readable media having stored
22 thereon a plurality of instructions that, when executed by one or more processors
23 of a device, causes the one or more processors to:
24

obtain a set of training text having associated summaries;

1 use the set of training text and associated summaries to generate a keyword
2 generation model;

3 obtain another set of training text having associated categories;

4 map, using the keyword generation model, the other set of training text to a
5 set of vectors; and

6 train a text classifier based on the set of vectors and the associated
7 categories.

8
9 19. (original): One or more computer readable media as recited in claim
10 18, wherein the instructions that cause the one or more processors to use the set of
11 training text and associated summaries to generate the keyword generation model
12 comprise instructions that cause the one or more processors to:

13 obtain, from the associated summaries, a keyword listing; and

14 create, for each keyword in the keyword listing, a keyword classifier which
15 indicates how likely it is for the keyword to occur in one of the associated
16 summaries.

17
18 20. (original): One or more computer readable media as recited in claim
19 19, wherein the instructions that cause the one or more processors to map the other
20 set of training text to a set of vectors comprise instructions that cause the one or
21 more processors to:

22 generate a probability vector for each of a plurality of pieces of training text
23 of the other set of training data, wherein each component of the probability vector
24 for a piece of training text represents the conditional probability of a keyword of
25 the keyword listing given the piece of training text; and

1 include each generated probability vector as a vector of the set of vectors.

2

3 21. (currently amended): A computer-implemented method of

4 classifying data, the method comprising:

5 receiving data to be classified;

6 using a key feature generation model to obtain a vector representing the
7 data, wherein the key feature generation model is based on a set of training data
8 having associated summaries; and

9 inputting the obtained vector to a trained data classifier, wherein the trained
10 data classifier was previously trained using the set of training data and associated
11 summaries.

12

13 22. (currently amended): A computer-implemented method as recited in
14 claim 21, wherein different pieces of training data are used as a basis for the key
15 feature generation model and the trained data classifier.

16

17 23. (currently amended): A computer-implemented method as recited in
18 claim 21, wherein the set of training data comprises a plurality of pieces of
19 training text, wherein the associated summaries include keywords, and wherein at
20 least one summary corresponds to each piece of training text.

21

22 24. (currently amended): A computer-implemented method as recited in
23 claim 21, wherein the key feature generation model was previously generated by:
24

25 obtaining, from the associated summaries, a key feature listing; and

1 creating, for each key feature in the key feature listing, a key feature
2 classifier which indicates how likely it is for the key feature to occur in one of the
3 associated summaries.

4

5 **25.** (original): One or more computer readable media having stored
6 thereon a plurality of instructions that, when executed by one or more processors
7 of a device, causes the one or more processors to:

8 train a text classifier using multiple pieces of training text, a plurality of
9 summaries wherein each of the plurality of summaries is associated with one of
10 the multiple pieces of training text, and a plurality of categories wherein each of
11 the plurality of categories is associated with one of the multiple pieces of training
12 text; and

13 use the trained text classifier to classify input text without an associated
14 summary.

15

16 **26.** (original): One or more computer readable media as recited in claim
17 25, wherein the instructions that cause the one or more processors to train the text
18 classifier cause the one or more processors to:

19 obtain, from the associated summaries, a keyword listing;
20 create, for each keyword in the keyword listing, a keyword classifier which
21 indicates how likely it is for the keyword to occur in one of the associated
22 summaries; and

23 use, the created classifiers as a key feature generation model.

1 **27.** (original): One or more computer readable media as recited in claim
2 26, wherein the instructions that cause the one or more processors to obtain the
3 keyword listing comprise instructions that cause the one or more processors to
4 include, in the keyword listing, each keyword that is present in at least one of the
5 associated summaries.

6
7 **28.** (original): One or more computer readable media as recited in claim
8 26, wherein each of the created keyword classifiers comprises a probabilistic
9 model.

10
11 **29.** (original): One or more computer readable media as recited in claim
12 26, wherein the instructions that cause the one or more processors to train the text
13 classifier further cause the one or more processors to:

14 generate a probability vector for each of a plurality of pieces of the multiple
15 pieces of training text, wherein each component of the probability vector for a
16 piece of training text represents the conditional probability of a keyword of the
17 keyword listing given the piece of training text;

18 include each generated probability vector as a vector of a set of vectors; and
19 map another plurality of pieces of the multiple pieces of training text to the
20 set of vectors.

21
22 **30.** (original): A system comprising:
23 a stochastic key feature generation model training module to generate a
24 trained model based on a first training set, wherein the first training set includes
25 training data and associated summaries;

1 a training data mapping module to generate a plurality of vectors based on
2 the trained model and a second training set, wherein the second training set
3 includes training data and associated categories; and

4 a classifier training module to construct a trained classifier based on the
5 plurality of vectors and the second training set.

6
7 31. (original): A system as recited in claim 30, further comprising:
8 a stochastic key feature generation model-based vector generation module
9 to generate a vector based on input data and the trained model; and
10 wherein the trained classifier is to receive the vector and, based on the
11 vector, classify the input data into one or more classes.

12
13 32. (original): A system as recited in claim 30, wherein the training
14 data included in the first training set and the training data included in the second
15 training set are the same training data.

16
17 33. (original): A system as recited in claim 30, wherein the training
18 data included in the first training set comprises a plurality of pieces of training
19 text, wherein the associated summaries include keywords, and wherein at least one
20 summary corresponds to each piece of training text.

21
22 34. (original): A system as recited in claim 30, wherein the stochastic
23 key feature generation model training module is to generate the trained model by:
24 obtaining, from the associated summaries, a key feature listing; and

1 creating, for each key feature in the key feature listing, a key feature
2 classifier which judges how likely it is for the key feature to occur in one of the
3 associated summaries.

4

5 35. (original): A system as recited in claim 34, wherein the stochastic
6 key feature generation model training module is to obtain the key feature listing by
7 including, in the key feature listing, each key feature that is present in at least one
8 of the associated summaries.

9

10 36. (original): A system as recited in claim 34, wherein the key feature
11 classifier comprises a probabilistic model.

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13 37. (original): A system as recited in claim 34, wherein the training
14 data mapping module is to generate the plurality of vectors by:

15 generating a probability vector for each of a plurality of pieces of training
16 data in the second training set, wherein each component of the probability vector
17 for a piece of training data represents the conditional probability of a key feature
18 of the key feature listing given the piece of training data; and

19 including each generated probability vector as a vector of the plurality of
20 vectors.

21

22 38. (original): A system as recited in claim 34, wherein the training
23 data mapping module is to generate the plurality of vectors by:

24 using, for each piece of training data, the created key feature classifiers to
25 generate the elements of a vector of the plurality of vectors.

1
2 **39.** (original): A system as recited in claim 30, wherein the training
3 data mapping module is to generate the plurality of vectors by:

4 generating a probability vector for each of a plurality of pieces of training
5 data included in the second training set, wherein each component of the
6 probability vector for a piece of training data represents the conditional probability
7 of a key feature given the piece of training data; and

8 including each generated probability vector as a vector of the plurality of
9 vectors.

10
11 **40.** (original): A system comprising:

12 a stochastic key feature generation model-based vector generation module
13 to generate a vector based on input data and a stochastic key feature generation
14 model, wherein the stochastic key feature generation model was previously
15 generated based on training data and associated summaries; and

16 a classifier to receive the vector and, based on the vector, classify the input
17 data into one or more classes.

18
19 **41.** (original): A system as recited in claim 40, wherein the training
20 data comprises a plurality of pieces of training text, wherein the associated
21 summaries include keywords, and wherein at least one summary corresponds to
22 each piece of training text.

1 **42.** (original): A system as recited in claim 40, wherein the stochastic
2 key feature generation model was previously generated by:

3 obtaining, from the associated summaries, a key feature listing; and
4 creating, for each key feature in the key feature listing, a key feature
5 classifier which indicates how likely it is for the key feature to occur in one of the
6 associated summaries.

7
8 **43.** (original): A system comprising:

9 means for generating a trained model based on a first training set, wherein
10 the first training set includes training data and associated summaries;

11 means for generating a plurality of vectors based on the trained model and a
12 second training set, wherein the second training set includes training data and
13 associated categories; and

14 means for constructing a trained classifier based on the plurality of vectors
15 and the second training set.

16
17 **44.** (original): A system as recited in claim 43, further comprising:

18 means for generating a vector based on input data and the trained model;
19 and

20 wherein the trained classifier is to receive the vector and, based on the
21 vector, classify the input data into one or more classes.